

PROGRAMMABLE 3D GRAPHICS PIPELINE FOR MULTIMEDIA APPLICATIONS

Abstract of the Disclosure

A programmable graphics pipeline and method for processing multiple
5 partitioned multimedia data, such as graphics data, image data, video data, or audio
data. A preferred embodiment of the programmable graphics pipeline includes an
instruction cache, a register file, and a vector functional unit that perform partitioned
instructions. In addition, an enhanced rasterization unit is used to generate
10 inverse-mapped source coordinates in addition to destination output coordinates for
graphics and other media processing. An enhanced texture address unit generates
corresponding memory addresses of source texture data for graphics processing and
source media data for media processing. Data retrieved from memory are stored in an
enhanced texture cache for use by the vector functional unit. A vector output unit
includes a blending unit for graphics data and an output buffer for wide media data.